

IV. REMARKS

A. Drawings

New Fig. 8 has been amended to indicate that the fiber layup is “Prior Art” in accordance with the Office Action.

B. Claims

i. Section 112 Rejections

The objected to “strength” limitation in claim 1 has been cancelled.

The term “slightly” has been cancelled, each occurrence, in claims 2 and 19.

These amendments are not made to avoid prior art.

ii. Prior Art Rejections

Reconsideration of the prior art rejections is earnestly requested. Applicant believed the prior art distinctions in the previous amendments were apparent, but would now appreciate the Examiner’s consideration in light of the remarks below.

Claim 1 has been amended to distinguish Lew 6,398,313 B1 which uses a separate joining member to join halves each of which has a female receptacle at both ends (see Fig. 11, 12, 13 of Lew). Lew essentially adapts the use of separate plugs which have been used to join bent metal rim extrusions for years -- as shown in Sacks 4,938,540. It is respectfully submitted that neither Lew ‘313 B1, nor Sacks have both the male and female ends as part of the same integral molding. Both use plugs or pins.

Similarly, while machining brake surfaces, for example on anodized aluminum rims, as a general concept has been practiced, machining surfaces on an all-composite rim is not at all obvious because one of ordinary skill in the art is aware that the most common high modulus fibers, carbon, are both difficult to machine and the removal or fracturing by machining of fibers

will weaken the structure. It is non-obvious in a bicycle wheel to use both high modulus structural fibers and what is in effect a sacrificial, machinable layer, of other fibers, simultaneously, integrally molded, so that the matrix is monolithic. The epoxy molecules are all effectively cross-linked, regardless of the type of proximate reinforcing fibers.

With respect to claim 17, the above arguments about the teachings of Lew and Sacks (prior art joining rim portions with plugs or pins) apply. Additionally, Chen 5,941,606 does not suggest continuous reinforcing fiber bundles or 'ropes' in a composite rim. Indeed, Chen's "pair of pins 321" (column 2, line 61) are not materially different from the previously cited Sacks' pins. Chen does add an additional "pin 361" (column 2, line 67) over that in Sacks. The only effect on the strength of the rim is that the joint is stronger than that in Sacks, because it has three pins, rather than two. There is no suggestion in the disclosure of the hub invention in Chen, coupled to a rim, that the rim is made of composite or that any of the pins are fibers.

It is believed that all outstanding issues have been addressed and the application should be in condition for allowance.

Respectfully submitted,



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